

R-2515 Users Handbook

Airspace and Flying Procedures

9 JAN 2021

OPR: 412 OSS/OSOA

Supersedes: R-2515 Users Handbook, 1 Sep 2020

Summary of Changes: 7.7.4

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Chapter 1: Introduction

1.1. This handbook describes standard operating procedures for all users of R-2515.

1.2. Online Information Available. Public R-2515 information is available via the Edwards Air Force Base (EAFB) public website: <http://www.edwards.af.mil/About/R-2515-Airspace/>. Non-public information is available via the R-2515 Airspace Management SharePoint site: <https://org2.eis.af.mil/sites/22616/412OSS/Pages/OSOS-R-2515%20Airspace.aspx>.

1.3. Recommended Changes. Recommended changes to this handbook should be forwarded to the R-2515 Airspace Management Office (412 OSS/OSOA):

100 E. Sparks Drive
Building 2580, Room 301
Edwards AFB, CA 93524-8090

Telephone: DSN: 527-2515; COMM: (661) 277-2515

Email: 412OSS.OSO.R-2515AirspaceMgr@us.af.mil

1.4. Waivers. Coordinate with the R-2515 Airspace Management Office for deviations to this handbook. Deviations will be approved by the OG/CC via a Concept of Operations (CONOP).

1.5. GPS Data. The National Geospatial-Intelligence Agency (NGA) Edwards Support Team recommends that the GPS data in this handbook be used for informational purposes only. For current data, please contact NGA ((661) 277-5050) or 412 TW/Range Safety ((661) 277-5297).

1.6. Filming and Data Collection Requests. Filming and data collection on EAFB property shall be in accordance with DoDI 5410.16, *DoD Assistance to Non-Government, Entertainment-Oriented Media Productions*, and coordinated through the Public Affairs Office (DSN: 527-3824/COMM: (661) 277-3824).

1.7. NASA. R-2515 Airspace Management will coordinate with all applicable agencies, via CONOPS, for NASA projects operating outside the scope of this Handbook or EAFBI 13-204, *Airfield Operations Procedures and Programs*.

Chapter 2: Description and Scheduling

2.1. Major Range and Test Facility Base (MRTFB). DoDD 3200.11, *Major Range and Test Facility Base*, designates the 412 TW as an MRTFB. The 412 TW, the using agency of R-2515, conducts Research, Development, Test & Evaluation (RDT&E) in support of the Department of Defense (DoD). The MRTFB may be used by other DoD users, and users outside the DoD such as U.S. Government Agencies, State and local governments, allied foreign governments, and commercial entities. **R-2515 is not for recreational use/users.** R-2515 excludes the Class D (when tower is operational).

2.2. Participating/Non-Participating Aircraft. "Participating aircraft" are under the command of, or sponsored by, US Navy, US Army, US Air Force, members of the R-2508 Joint Policy and Planning Board (JPPB), and civilians under Letter of Agreement (LOA) or Hold Harmless Agreement (HHA). "Non-Participating" aircraft cannot comply with R-2508 Complex procedures.

2.3. Airspace Briefings. R-2515 users require annual R-2508 and R-2515 briefings.

2.4. Scheduling. Schedule in accordance with EAFBI 11-115, *Scheduling Procedures for Aircraft and Air/Ground Support*. Civil Aircraft, that are non-LOA holders, should expect processing to take 14 days. First responders, responding to an active emergency, should request entry directly from SPORT Military Radar Unit (SPORT) and/or Joshua High Desert TRACON (JOSHUA).

2.5. Local Area Activities. Be vigilant for parachute jumpers and glider activity around Mojave, Rosamond, California City, Tehachapi, El Mirage, and Crystal Air airports. Glider activity is heaviest June through August.

2.6. No Fly Areas. Avoid 'no fly' areas laterally or vertically. Do not overfly the Air Force Research Lab (AFRL) below 5,300' MSL. Do not overfly the EOD area below 6,000' MSL. Do not overfly Boron Mine property below 4,500' MSL. To the maximum extent possible, do not overfly base housing or the medical facility. However, if you do overfly base housing or the medical facility, do not overfly them below 3,000' MSL.

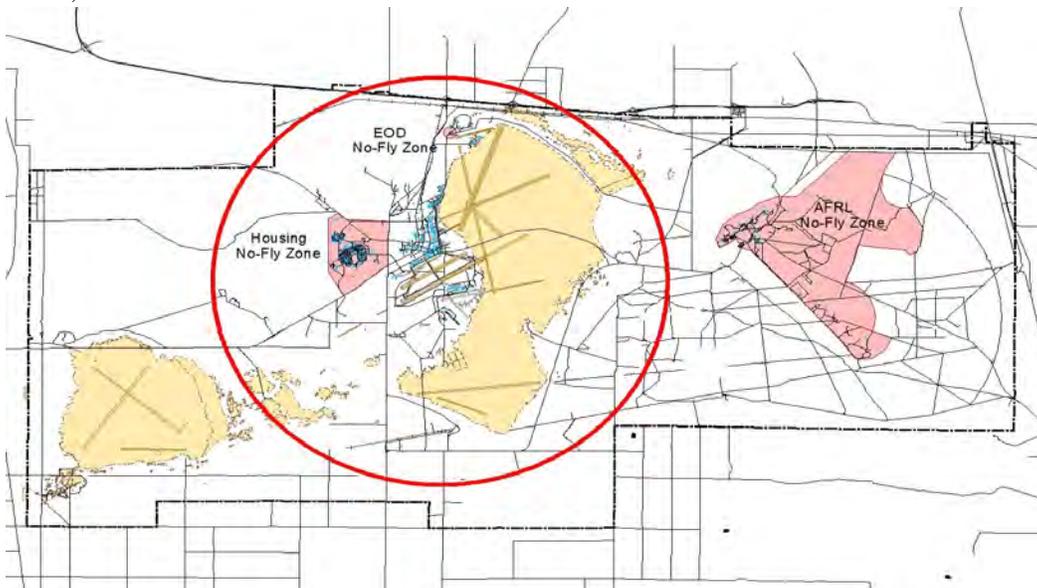


Figure 1. No Fly Areas.

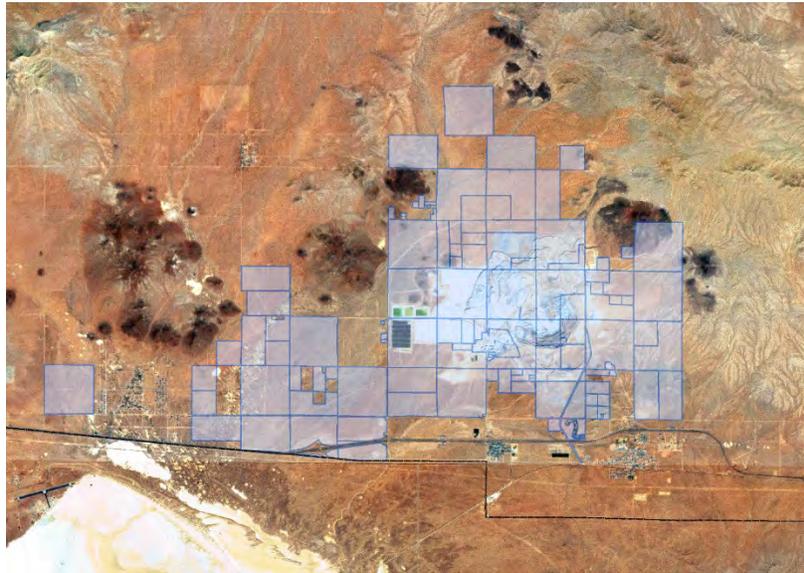


Figure 2. Boron Mine Property

Chapter 3: Air Traffic Control (ATC) Services

3.1. Notice to Airmen (NOTAM) / Drone NOTAM (DROTAM). Airfield Management (412 OSS/OSAM) publishes NOTAMs pertaining to the airfield. Airspace Management publishes NOTAMs pertaining to airspace. DROTAMs are not published within R-2515 for 412 TW UAS activities. Authorized civil UAS users are required to input their DROTAMs data into the FSS website (<https://www.1800wxbrief.com/Website/#/>). Aircrew can view DROTAMs via SkyVector (<https://skyvector.com/>).”

3.2. VMC Procedures. Participating aircraft must operate VMC. The pilot-in-command must “see and avoid” all other aircraft. Aircraft unable to operate under VMC should notify SPORT. Aircraft that need to penetrate IMC, within R-2515, must remain in VMC until they receive an IFR clearance from JOSHUA. Expect delays. JOSHUA will issue an IFR clearance in order to find a VMC area or to exit the airspace.

3.3. Weather Recall Areas. The FAA could request portions of the R-2508 complex during periods of inclement weather. SPORT will determine if or when airspace may be released.

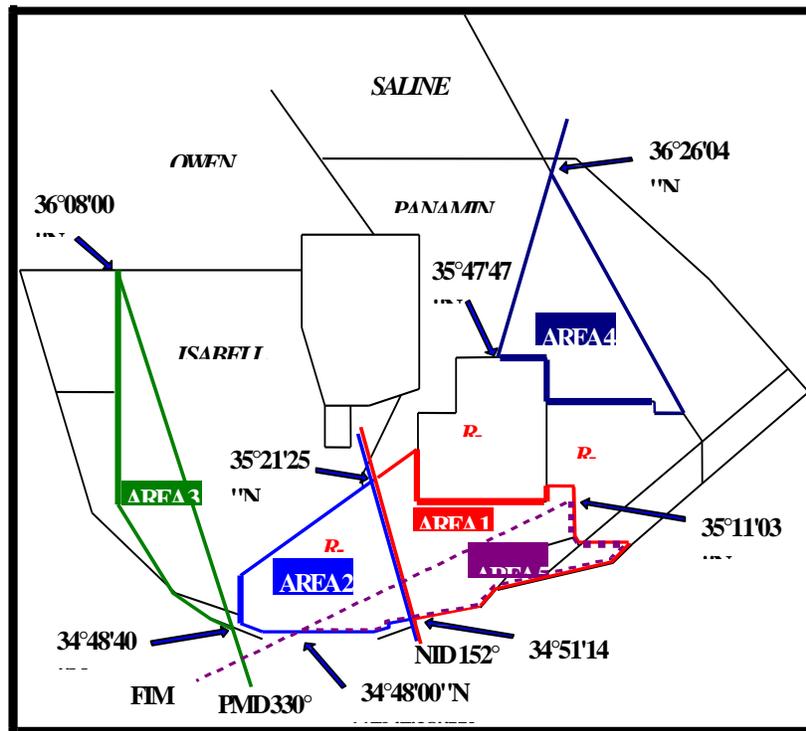


Figure 3. Severe Weather Areas.

3.4. SPORT Military Radar Unit. SPORT assists aircrews in accomplishing their missions within R-2515 and the BARSTOW and BUCKHORN MOAs. When SPORT is closed, control reverts to JOSHUA.

3.4.1. SPORT does not provide air traffic control or IFR services, rather they provide 'advisory' service for participating VFR aircraft. These services include radar monitoring, traffic advisories, safety alerts, boundary calls, tactical maneuvering traffic calls, radar vectoring, sequencing, and general de-confliction.

3.4.2. Participating aircraft must establish 2-way radio communication with SPORT before entering R-2515. Aircraft taking off from EAFB will contact SPORT prior to takeoff for a brief.

3.4.3. While SPORT provides advisory services, when potentially unsafe situations require SPORT to issue instructions, participating aircraft will comply to the maximum extent possible.

3.4.4. Aircraft will advise SPORT prior to making radical horizontal or vertical maneuvers.

3.4.5. Pre-Brief. Participating aircraft must contact SPORT or submit a Pre-Brief Sheet to SPORT prior to takeoff. This permits SPORT to actively plan de-confliction. This sheet is available on the R-2515 Airspace Website. Fax this sheet to SPORT at 661-277-8863 as early as possible. NOTE: All crews flying T-38 aircraft with the nose boom modification will make the following annotation on the Sport Brief: “***T-38C YAPS Nose boom Modified aircraft – True altitude is higher than indicated, reported altitude may be in error by 1,200’ at high subsonic speeds.”

3.4.6. Mission Services. SPORT has the capability to assist on discrete frequencies for missions requiring specialized handling. Contact SPORT to coordinate the needs of your mission.

3.5. Joshua High Desert TRACON (JOSHUA). When R-2515 is not scheduled for DoD use, it is released to JOSHUA. JOSHUA provides limited services, such as traffic information and airspace boundary calls. Unlike SPORT, they do not provide de-confliction services within R-2515.

3.6. Bubble Airspace (BA). Piloted aircraft will avoid un-piloted aircraft by 1000' vertical or 3NM horizontal. Piloted aircraft chasing un-piloted aircraft are exempt.

3.7. Altimeter Setting. Aircraft should use the Edwards altimeter setting given by JOSHUA or SPORT. Test aircraft may use 29.92 at altitudes as required by test parameters within R-2515 in VMC. If test aircraft require an altimeter setting other than 29.92, annotate it on the SPORT Pre-brief sheet.

3.8. Lights Out Operations. Aircraft position lights shall remain on while transiting to/from and may be turned off when established within the restricted area (excludes R-2508). Crews shall advise the controlling agency when starting/stopping operations.

3.9. Chaff / Flares. Comply with CJCSM 3212.02, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*, AFI 11-214, *Air Operations Rules and Procedures*, EAFBI 13-212, *Range Planning and Operations*, AF IMT 813, *Request for Environmental Impact Analysis*, and annual waivers (kept by 412 CS/SCOTS 527-4763).

3.9.1. Chaff is authorized above 5,000’ AGL. Chaff is not authorized on Military Training Routes (MTR).

3.9.2. Flares are authorized above 5,000’ AGL. Do not release over EAFB below 15,000’ AGL.

3.9.3. Advise SPORT prior to any chaff/flare release.

3.10. Inoperative/No Transponder. An operable transponder is desired, but not required to operate within R-2515. SPORT may, contingent upon workload, require aircraft to return to base in the event of an inoperative transponder.

Chapter 4: Unmanned Aircraft Systems (UAS)

4.1. General. UAS shall maintain 2-way communication with SPORT. If lost link, notify ATC immediately for further instructions. When active, aircrew must avoid these areas. Anytime SPORT is closed, the user must notify the R-2515 Airspace Office so that a NOTAM can be issued for any scheduled UAS work area.

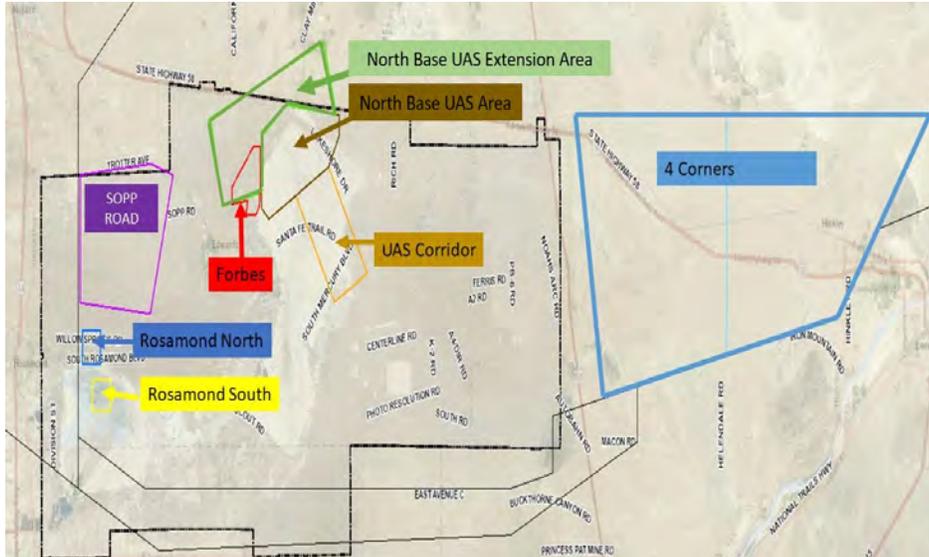


Figure 4. UAS Work Areas.

4.2. UAS Corridor. Only be used to transit above Class D between the work area and Precision Impact Range Area (PIRA). Transit between 5,000' and 10,000' MSL.

4.3. North Base UAS Work Area. This area extends from the surface to 10,000' MSL.

4.4. North Base UAS Extension Area. Vertical limits are surface to 4,800' MSL.

4.5. Four Corners UAS Work Area. Vertical limits are 8,000' MSL and above. This area is divided into East and West sections. SPORT may release 1,000' above and below the UAS.

4.6. Rosamond North UAS Area. Vertical limits are surface to 500' AGL.

4.7. Rosamond South UAS Area. Vertical limits are surface to 3,000' AGL. Not authorized when RWY 04 or PIRA Supersonic Corridor is active.

4.8. North Exhibit Area. Vertical limits are surface to 400' AGL. Falls within a radio blind spot. Communication with ATC is not required. Cannot be activated simultaneously with Rosamond North.

4.9. Forbes UAS Work Area. Vertical limits are surface to 500' AGL/3,100' MSL.

4.10. SOPP Road UAS Work Area. Vertical limits are surface to 500' AGL/3,800' MSL.

4.11 ET-CTF (Emerging Technologies Combined Test Force) UAS Area. Surface to 200' AGL when the Class D is active. When the Class D is not active, this area must be scheduled IAW EAFBI 11-115 and a NOTAM must be published. For further information see EAFBI 13-204.

4.12. Warney Corridor. ET-CTF is the only authorized user. Authorized during daytime VMC conditions only. Must be schedule IAW EAFBI 11-115. When used, NB UAS Extension Area and the North SPIN area are not usable. Not authorized for use simultaneously with the Maia Bridge. Can be activated 500’ AGL – FL200. Located along the southern boundary of Cords Road (extends 1 mile from centerline and is 11 miles long). If SPORT is closed, ET-CTF must notify the R-2515 Airspace Office for a NOTAM to be issued.

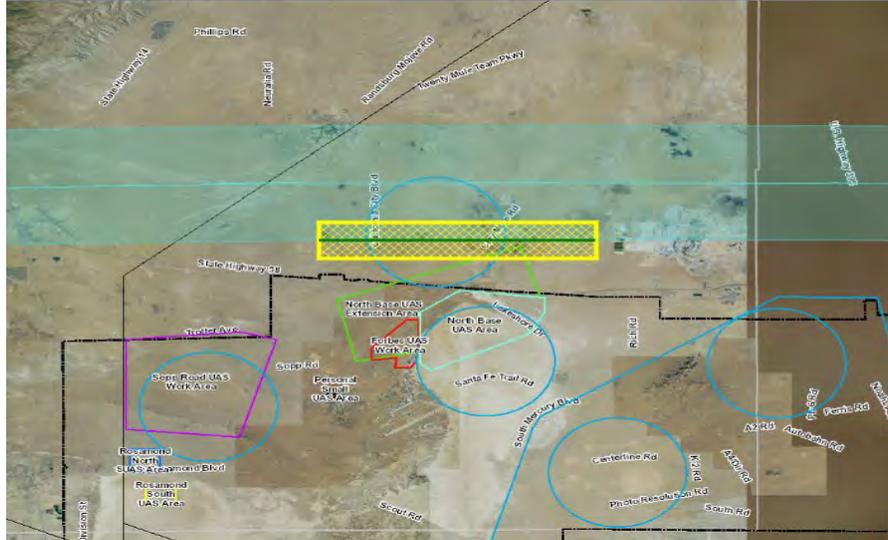


Figure 5. Warney Corridor

4.13. Maia Bridge. ET-CTF is the only authorized user. Authorized during daytime VFR conditions only. Must be scheduled IAW EAFBI 11-115 and during non-peak 412 TW flying, e.g. early mornings, evenings, holidays, down days, or weekends. Not authorized for simultaneous use with the Warney Corridor. Not authorized for simultaneous use with North/West Spin Areas above 11,000ft MSL. The airspace combines with other UAS areas to create an 18-mile corridor, 2 miles wide. Can be activated from 500’ AGL – FL200. When used, SOPP Road, NB UAS Area, and NB UAS Extension must also be scheduled. **ET-CTF must notify the R-2515 Airspace Office so a NOTAM can be issued for SOPP Road, NB WAS Area, and NB UAS Extension.**

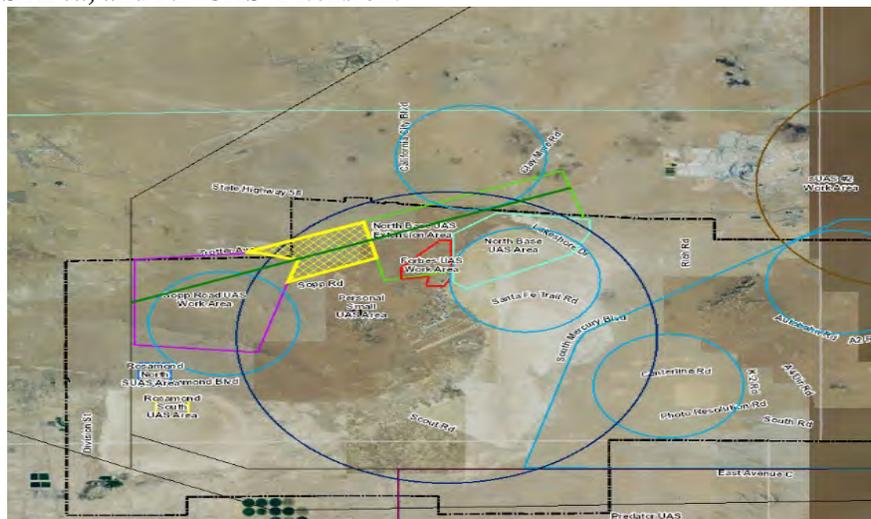


Figure 6. Maia Bridge

4.14. R-2515 Entry and Exit Procedures for UAS. Point Grizzly (N 34-53-09.00/W 117-13-16.20) entry altitude is 8,500' MSL, Point Vegas (N 34-51-19/W 117-26-03) exit altitude is 7,500' MSL, Point Reaper (N 35-10-29/W 116-49-08), Red Mountain (N 35-21-27/W 117-35-25), and Point Rosamond (N 34-49-40 /W 118-05-48).

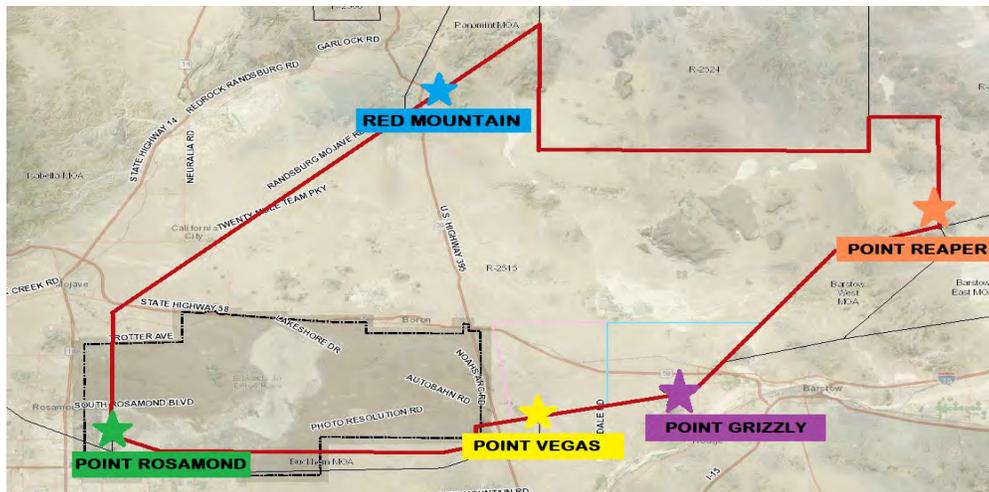


Figure 7. UAS Entry and Exit Points

Chapter 5: Drop Zones (DZ)

5.1. General. When active, avoid these areas. For DZ data, visit the Test Parachute Program (TPP) SharePoint site: <https://org2.eis.af.mil/sites/22616/412OSS/Pages/DOZ%20-%20TPP%20SERE.aspx>. For local DZs, non-EAFB units must have an approved test plan and/or Inter/Intra Agency Support Agreement (ISA). TPP will conduct initial and recurring surveys in accordance with AFI 13-207. Jumpers must review the 412 TW Jumpers Agricultural Brief located on the TPP site. For environmental questions, 412 CEG/CEVA at (661) 527-9224. For archaeology information, (661) 277-1413.

5.3. Scheduling. For PB-8, ENAD, & Survival School, schedule the DZ, R-2515, Buckhorn MOA, & Alpha corridor. For Erickson East & West, schedule the DZ, Buckhorn MOA, & Alpha corridor. If using PB-8, also schedule West Range, Downfall Tower, and Recovery.

5.4. Erickson DZ. Air Mobility Command (AMC) certified DZ, available to DoD aircraft, for cargo and personnel drops. Non-412 TW users shall have a MOU. Center point: EDW 212.1/15.9 (N34-47-31.9/W117-57-39.4). Avoidance: 2 NMR from center.

5.5. Enad DZ. AMC published DZ, available to DoD aircraft for personnel and cargo drops. Center point: EDW 225.1/18.95 (N 34-48.709/W 118-04.104).

5.6. PB-8 DZ. Published in the AMC Zone Availability Report (ZAR) (<https://cs2.eis.af.mil/sites/10358/default.aspx>) for DoD, or 412 TW aircraft for personnel and cargo drops. Center point: EDW 163/7.39 (N 34-51.574/W 117-43.097), surface to unlimited. Refer to EAFB 13-212v1 and the DZ survey for additional range information regarding PB-8.

5.7. Survival School DZ. Test Parachute Program only. Center point: EDW 206.2/11.71. Avoidance area: 1.5 NMR from center / 2.5 NMR for High Altitude High Opening (HAHO) jumps. Altitude: surface to 500' above the active altitude.

5.8. Housing DZ. Test Parachute Program only. This DZ is limited to non-static line drops with all release points inside the 1.5 avoidance area. Center point: EDW 249.7/10.55. Avoidance area: 1.5 NMR from center / 2.5 NMR for HAHO jumps. Altitude: surface to 500' above the active altitude (no higher than 13,000' MSL). DZ is .5 NM from the EOD no fly area. The West Spin Area and Housing DZ shall not be active simultaneously. TPP Jumpers shall avoid the EOD Range when using the Housing DZ.

5.9. Rick DZ/Wings DZ. Test Parachute Program only. The Rick DZ is located at the Fitness Center Track. The Wings DZ is located at Wings Field. Both have a 1 NMR avoidance zone.

Chapter 6: Supersonic Operations

6.1. General. JOSHUA will only provide assistance to the High Altitude Supersonic Corridor. The Black Mountain and PIRA Supersonic Corridors are not depicted on their radar indicators.

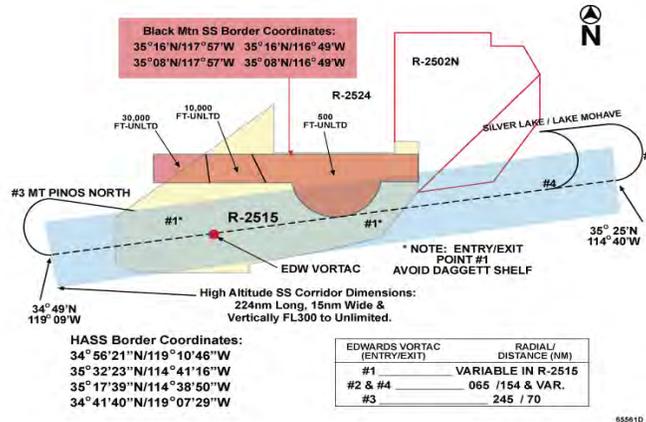


Figure 8. Black Mountain and High Altitude Supersonic Corridors.

6.2. Sonic Boom Log. IAW AFI 13-201, *Airspace Management*, submit supersonic activity using the form in Center Operations OnLine (COOL) under Mission Planning. IAW AFMAN 11-421, *Aviation Resource Management*, 1.11.3, SARM will manually update ARMs.

6.3. Black Mountain Supersonic Corridor. 8 NM wide, 500' AGL to unlimited. Supersonic flight is authorized: above FL300 within W117-57' to W 117-45; 10,000' MSL to unlimited between W 117-45 to Hwy 395; 500' AGL to unlimited between Hwy 395 to W 116-49. There is a small circular extension 9.5 NMR of N35-10.9/ W 117-09, NE of Harpers for supersonic turns or maneuvers. The southern limit of the keyhole is N 35-01.9'. Minimum altitude is 500' AGL for supersonic flight below 10,000' MSL east of HWY 395 to the boundary.

6.4. High Altitude Supersonic Corridor. Encompasses 7.5 NM either side of centerline and 224 NM long from FL300 to unlimited. Centerline coordinates N 34-49/W 119-00 (Mt Pinos) to N 34-58.9/ W 117-43.9 (EDW VORTAC) to N 35-25/W 114-40 Lake Mojave on the Colorado River. Use of the High Altitude corridor requires coordination with LA Center and JOSHUA. Contact the Airspace Office for details. This LOA is maintained on the SPORT SharePoint Site.

6.5. PIRA Supersonic Corridor. 500' AGL to unlimited. Centerline: N 34-48.9/W 118-03.5 to N 34-51.4/W 117-31.5. Supersonic flight below 15,000' MSL is restricted W-E only. Schedule VR-1206 for low altitude W-E flights. Be subsonic prior to exiting East Range and crossing HWY 395.



Figure 9. PIRA Supersonic Corridor.

Chapter 7: Other Work Areas

7.1. Military Training Routes (MTR). 412 TW is the originating/scheduling agency for several Instrument Training Routes (IR) and VFR Military Training Routes (VR). Aircrews flying published VR Routes will squawk 4000 unless directed otherwise. Complete descriptions are located in the FLIP Area Planning Publication and AP/1B Military Training Routes. MTR survey data can be found on the R-2515 Airspace Management SharePoint site.

7.2. Cords Road Test Area. Cords Road is a true east/west oriented graded road running from just north of Mojave to Coyote Lake. Cords Road extends 3NM north and south of the road generally along N35°05' or 5-10 miles north of Highway 58. Cords Road is used by California Highway Patrol aircraft, helicopters, pipeline, and power line patrol aircraft below 1000' AGL.

7.3. Spin Areas. Spin areas are 5 NM in diameter from 11,000 MSL to 45,000 MSL, except for the Lakebed Spin which starts at 6,000 MSL. Spin areas are activated for exclusive use and will be avoided when active. The **Mercury Spin Area** shall not be used simultaneously with active East/South Spin areas. The area extends from 11,000' MSL to FL450. The West Spin area and Housing DZ shall not be active simultaneously.

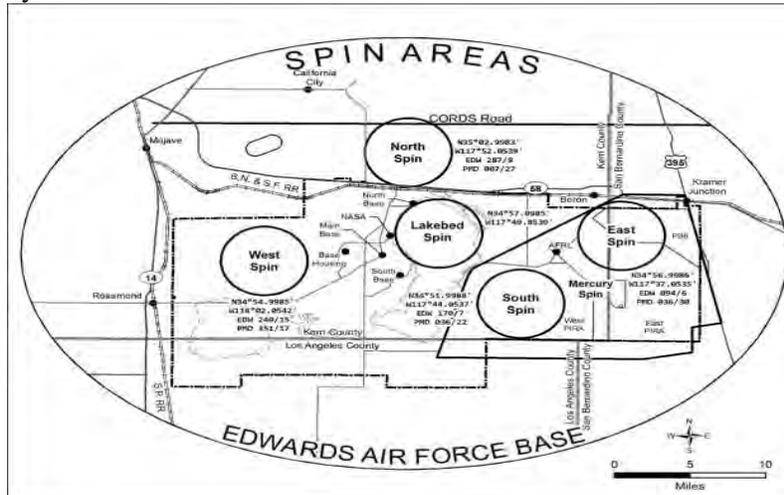


Figure 10. SPIN Areas.

7.4. Detachment 7 Air Force Research Laboratory (Det 7, AFRL). Rocket engine firings are periodically conducted at the site. A potential hazard exists from blast fragments or toxic fumes/clouds. The hazard area begins at Leuhmans Ridge extending southeast along Mars Blvd to Haystack Butte. Coordinate with the Det 7, AFRL Site Operation Control Center (SOCC), via DSN 525-5632/ Comm 275-5632, before conducting flight below 5,300' MSL over the Laboratory.

7.5. Alpha Corridor. SPORT provides status advisories (hot or cold).

7.6. Precision Impact Range Area (PIRA). Located on the eastern portion of EAFB, covers approximately 75 square miles, and is subdivided into the West Range, East Range, and the precision bombing (PB) 6 range. The PIRA is used for air-to-ground gunnery, photo and infrared resolution, spin testing, aerial decelerator test, tests requiring precision instrumentation, precision bombing tests, and air-to-ground laser tests. Contact the 412th Range Squadron Laser Safety Officer and the 412th TW Range Safety Office for laser operations. SPORT provides status advisories (hot or cold). PIRA operations are conducted in accordance with EAFBI 13-212v1. Aircrew should avoid this area when it is active.

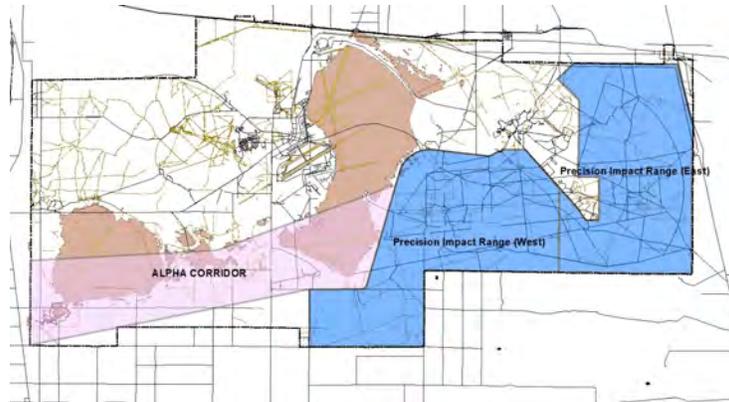


Figure 11. Alpha Corridor and PIRA.

7.7. Terrain Following Routes (TFRs). Intersecting TFRs will not be used simultaneously unless part of the same mission. TFR route width requires centerline navigation. All TFR except Haystack and Black Mountain are subsonic. All TFR route altitudes are 200' AGL to 1500' AGL except to avoid airports and noise sensitive areas.

7.7.1. Haystack Range: N34-49.7 / W118-01 to N34-52.4 / W117-30.5 (supersonic permitted). 150' lit towers N34-49.04 / W117-53.74; 140' lit tower N34-53.61 / W117-38.83' 100' unlit tower N34-53.17 / W117-38.43; 125' unlit tower N35-53.9 / W117-30.6.

7.7.2. Desert Butte: N35-05 / W117-01 to N35-05 / W117-56 (underlies Cords Road). 200' Observatory Radome N35-05.10 / W117-34.90 and 150' Radome at N35-05.83 / W117-32.59.

7.7.3. Harpers: N35-09.9 / W117-53 to N35-00.9 / W117-16. 190' multi unlit towers N35-20.4 / W117-40.7'; 140' unlit tower N35-20.752 / W117-40.282; 200' Observatory Radome N35-05.10 / W117-34.90, and 150' Radome at N35-05.83 / W117-32.59.

7.7.4. Saltdale: N35-18.9 / W117-47 to N35-02.9 / W117-01.

7.7.5. Black Mountain: N35-10.9 / W117-25 to N35-10.9 / W117-02 (supersonic permitted).

7.7.6. Rough One: N35-14.9 / W118-08 to N35-54.9 / W118-08. Numerous windmills in vicinity of route. Aircrew should carefully examine all obstacles prior to use. Within the first 7.5 miles of the route there are approximately 7 windmills within 2 miles of route centerline. The closest windmill is approximately 7 miles north of the start point and is within 1 mile of the centerline on the west side. The windmills are approximately 500' AGL, intruding significantly into the 200' floor of the route

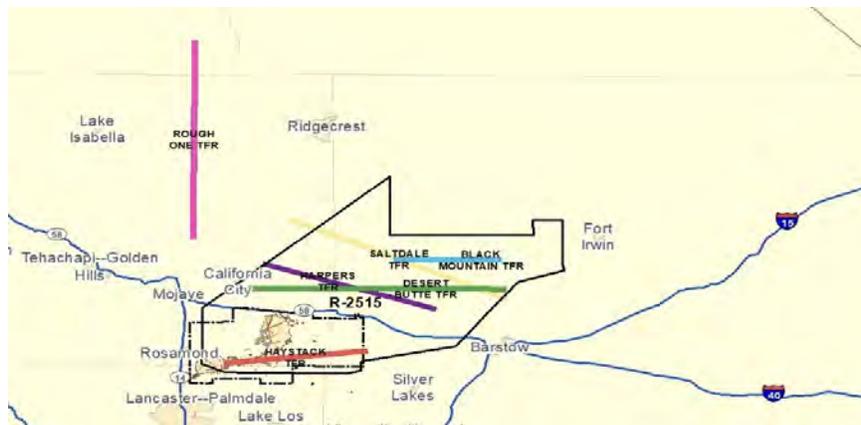


Figure 12. TFRs.

7.8. 412 TW R-2515 Modified Air Refueling Track. The use of this track requires 412 OG/CC approval. The outbound leg is EDW 068/09 to EDW 068/34. Remain West of R-2502 and South of R-2524 (remain south of EDW 052/38).



Figure 13. 412 TW R-2515 Modified Air Refueling Track

7.9. Mojave East Viper Range. An air-to-ground gunnery range south of California City. Center point: N35-03.9000/W117-59.8000.

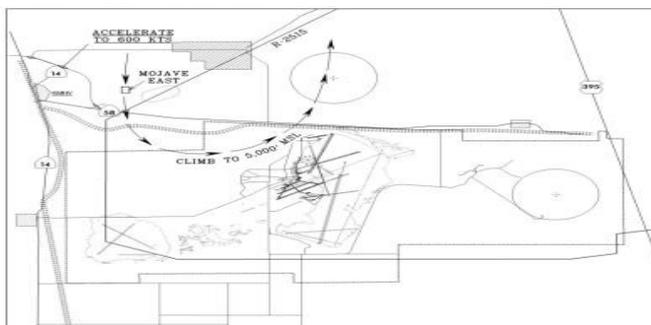


Figure 14. Mojave East Viper Range